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September 19, 2001

CERTIFIED MAIL
Document Processing Center (7407)
Attn: Section 8(e) Coordinator
Office of Toxic Substances
US Environmental Protection Agency
410 M Street, SW
Washington, DC 20460

Re: TSCA 8(e) SUBSTANTIAL RISK NOTICE (SUPPLEMENTAL) ON:
Perfluorobutanesulfonyl Fluoride: CAS# 375-72-4

Dear Sir:

3M has conducted a 28-day repeat dose inhalation study with perfluorobutanesulfonyl fluoride (PBSF) in rats at concentrations of 47, 162 and 479 ppm (6hrs/day, 5 days/week). Animals exposed to PBSF exhibited clinical signs consistent with neurotoxicity at all levels. Clinical signs were observed early in the exposure and had resolved by the next day. The functional observational battery and histopathological results were within normal limits. The mechanism of action for this neurotoxicity is not known. PBSF associated neurotoxicity was reported in a mouse inhalation toxicity screen (TSCA 8e Substantial Risk Notice, dated 30 July 1999) and in a rat acute inhalation study (TSCA 8e Substantial Risk Notice, dated September 28, 2000).

3M has established a workplace exposure limit (8-hr TWA) of 0.1 mg/m3 (0.008 ppm) for PBSF. 3M uses PBSF safely as a site limited intermediate with the following industrial hygiene practices: supplied air respiratory protection, chemical protective clothing, and local exhaust ventilation during charging.

Please contact me at 651.733-9218, for further information.

Sincerely

Larry R. Johnson

Larry R. Johnson, D.V.M., Ph.D., DABT
Director – Corporate Toxicology

Enclosure: Complete Report: "T-7499 TOXICITY STUDY BY REPEAT DOSE INHALATION ADMINISTRATION TO CD RATS FOR 4 WEEKS"

SUMMARY

Three groups of rats (each of 5 males and 5 females) of the Crl:CD® BR strain were exposed to T-7499, 6 hours a day for 5 consecutive days a week for 4 weeks using a whole-body exposure system. A fourth group, acting a control, was exposed to air only.

The study mean analysed concentrations of T-7499 were 47, 162 and 459 ppm for the Low, Intermediate and High dose groups respectively.

The following comments are made in summary:

Clinical signs observed during exposure included circling movement and lethargy.

Clinical signs observed immediately post exposure included vocalising and agitation when handled, walking on toes (abnormal gait) and hyperactivity. These signs were consistent with a neurotoxic effect and generally resolved prior to exposure the following day.

The overall mean bodyweight gains for all test rats (Weeks 0 to 4) were lower than controls, attaining a degree of statistical significance for all test males.

A reduction in food consumption was evident for Groups 4 male rats.

There was no effect of treatment on the functional observational battery or haematological and blood chemistry parameters.

Necropsy revealed no treatment-related macroscopic findings and no treatment-related differences in organ weights.

Histopathological examination of the respiratory tract revealed no treatment-related findings.

Conclusion

A no observed effect level (NOEL) was not established during this study. However, clinical signs consistent with a transient effect on the nervous system had generally resolved prior to exposure the following day and there was no evidence of sustained neurotoxicity in the functional observation battery.